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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,639	04/02/2004	Jay Alfred Miers JR.	A01425A	2839

21898 7590 07/13/2004  
ROHM AND HAAS COMPANY  
PATENT DEPARTMENT  
100 INDEPENDENCE MALL WEST  
PHILADELPHIA, PA 19106-2399

EXAMINER

CINTINS, IVARS C

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/817,639	<b>Applicant(s)</b> MIERS ET AL.	
	<b>Examiner</b> Ivars C. Cintins	<b>Art Unit</b> 1724	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-16 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beohner (U.S. Patent No. 2,841,550) in view of Cox et al. (U.S. Patent No. 4,999,102) or Kearney et al. (U.S. Patent No. 5,354,460), further in view of Tanabe et al. (U.S. Patent No. 5,833,846), and still further in view of Brown (U.S. Patent No. 4,673,507). Beohner discloses a method for treating water (see col. 3, lines 42-43), which method comprises passing the water through a fluid treatment system comprising a plurality of cylindrical vessels, including a pair of cation exchange resin tanks, a pair of anion exchange resin tanks, and a degasifier unit (see Fig. 1). Accordingly, this primary reference discloses the claimed invention with the exception of the recited flow rate, fractal manifold, size of the ion exchange resin beads, diameter of the vessels and the use of a membrane degasifier. Cox et al. and Kearney et al. disclose treatment tanks having flat heads and fractal manifold fluid distributors; and further teach that such treatment tanks are capable of handling fluids at the recited flow rates (see col. 4, lines 65-66 of Cox et al.; and col. 5, lines 42-43 of Kearney et al.). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of Beohner with the fluid distribution system of either Cox et al. or Kearney et al., in order to produce a more even distribution of liquid in this primary reference system. Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to treat the water of the primary reference at the recited flow rate of 30 m<sup>3</sup>/hour (claim 11) or 50 m<sup>3</sup>/hour (claim 16), since both

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Cox et al. and Kearney et al. clearly suggest such flow rates (i.e. 200 gallons per minute = 45 m<sup>3</sup>/hour; 700 gallons per minute = 159 m<sup>3</sup>/hour; and 1000 gallons per minute = 227 m<sup>3</sup>/hour). Furthermore, Tanabe et al. discloses a membrane degasifier (see Fig. 6); and it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute this membrane degasifier for the degasifier of the modified primary reference, since this membrane degasifier is capable of degassing a liquid in substantially the same manner as the degasifier of the modified primary reference, to produce substantially the same results. Moreover, Brown teaches (see col. 6, lines 63-66) that ion exchange resins normally employed in most industrial and commercial systems have a particle size of 0.5 mm (i.e. 500 microns). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ ion exchange resins having this particle size in the system of the modified primary reference, since Brown teaches that such resins are typically used in similar systems. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ equipment having the recited diameter in the system of the modified primary reference, in order to ensure that an adequate amount of treatment material is present in this system.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beohner, Cox et al., Kearney et al., Tanabe et al. and Brown as applied above, and further in view of Muller et al. (U.S. Patent No. 4,659,460) or Kelada (U.S. Patent No. 6,080,313). The modified primary reference discloses the claimed invention with the exception of the recited support frame. Muller et al. and Kelada disclose supporting a plurality of ion exchange vessels on a support frame; and it would have been obvious to one of ordinary skill in the art at the time


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the invention was made to provide the system of the modified primary reference with the support frame of either secondary reference, in order to facilitate transporting the treatment system of this modified primary reference. Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ equipment having the dimensions recited in claims 14 and 15 in the system of the modified primary reference, in order to ensure that an adequate amount of treatment material is present in this system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (571) 272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Duane Smith, can be reached at (571) 272-1166.

The centralized facsimile number for the USPTO is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**Ivars C. Cintins**  
**Primary Examiner**  
**Art Unit 1724**

I. Cintins  
July 9, 2004